Threats from the nation's largest telephone and cable companies seek to prioritize data and services with arguments that Smartphones and online video consumption are contributing to a surge in data traffic thereby causing bandwidth gridlock to increase profits from online data use. However, many areas of the radio spectrum are not fully utilized and much of it goes unused most of the time.

Reports on spectrum utilization indicates less than 6% of the United State's radio spectrum is used nationally at any given time.(See SSC, Spectrum Reports at http://www.sharedspectrum.com/papers/spectrum-reports/.) (See New New Directions for the Radio Spectrum: Towards a spectrum commons and shared use, http://www.europarl.europa.eu/document/activities/cont/201102/20110201ATT13001/20110201ATT13001EN.pdf)

Spectrum appears scarce because the property rights model "determines who may communicate, with whom, how, and for what purposes by giving one person the right to transmit over that channel to the exclusion of all others" thereby putting limitations on its use. (See Harvard Journal o f Law & Technology Volume 11, Number 2 Winter 1998 OVERCOMING AGORAPHOBIA: BUILDING THE COMMONS OF The DIGITALLY NETWORKED Environment, Yochai Benkler).

Nonetheless, technological developments in digital information processing and wireless communications has made possible an alternative regulatory approach in which spectrum is shared at any given moment among the greatest number of users without causing interference.

Dynamic Spectrum Access, (DSA) spreads a radio signal out over a wide band of frequencies unlike the property rights model of transmitting on an exclusively assigned band, making the signal both difficult to intercept and resistant to interference.

DSA identifies underutilized frequencies of the radio spectrum by licensed primary users. Secondary users then share the licensed spectrum with the primary users to achieve spectrum reuse in space, time, and frequency. (See DIVERSITY-BASED SPECTRUM SENSING POLICY FOR DETECTING PRIMARY SIGNALS OVER MULTIPLE FREQUENCY BANDS)

On January 9, 1997, the FCC adopted the U-NII Order providing for an Unlicensed National Information Infrastructure Band utilizing spread spectrum technology. However, constraints were imposed on U-NII
devices to limit their transmitting power with concerns that U-NII devices would cause interference to licensed services operating within the same band. (See ADVANCED WIRELESS TECHNOLOGIES AND PUBLIC POLICY, THOMAS W. HAZLETT & MATTHEW L. SPITZER)

In the Notice of Proposed Rule making ("NPRM") preceding the U-NII Order, a proposal by Apple and WINForum was made to allocate 5 GHz of spectrum exclusively for unlicensed wireless and an additional 150 MHz be reserved at 5.15 - 5.3 GHz to meet the future growth of unlicensed wireless operations. Apple and WINForum emphasized that high-speed wireless networks offer low cost communications that advance all segments of society to have access to the information superhighway. (See Notice of Proposed RuleMaking, Adopted: April 25,1996, Released: May 6,1996, ET Docket No. 96-102, 11 FCC Rcd 7205 (1996), (http://www.fcc.gov/oet/dockets/et96-102/).

Despite the social and economic benefits, this proposal was rejected and artificial constraints were imposed upon U-NII devices in an effort to maintain the archaic property rights model. This is evidenced by the biased reallocation of spectrum since 2002. According to Affiliated Researcher at Columbia University's Institute, Jim Snider, "licensed gained 489.5 MHz, and unlicensed lost 20 MHz."

Additionally, former FCC Chairman, Michael Powell asserted in 2004 that unlicensed devices can dramatically increase the availability and quality of wireless Internet connections, the equivalent of doubling the number of lanes on a congested highway. . . . He also concluded that unlicensed devices could help bring high-speed Internet services to rural communities without the cables or wires. (See Statement of Chairman Michael K. Powell, Notice of Proposed Rule Making, Re Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHZ Band (ET Docket No. 02-380), Notice of Proposed Rule Making, FCC 04-113 (2004).

The Commission also observed that there is significant bandwidth available because each TV channel occupies six megahertz and multiple channels are generally vacant or unused in a particular area. The Commission stated that allowing unlicensed devices to operate on unused TV channels would lead to more efficient use of the spectrum. (See Notice of Proposed Rule Making, Re Unlicensed Operation in the TV Broadcast Bands, (ET Docket No. 04-186, ; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHZ Band (ET Docket No.02-380), Notice of Proposed Rule Making, FCC 04-113, p4 of 38 (2004)).

Despite these findings, unlicensed devices have been allocated narrow high frequencies subject to signal propagation incapable of penetrating walls or cover large areas. Then in September of 2010, the
FCC approved the use of unlicensed devices to transmit in TV's white space, the unused broadcast bands. These airwaves are especially important because signals are capable of penetrating walls and cover longer distance than other unlicensed bands thereby allowing low cost broadband without the enormous cost of laying wires into every home. (See Unlicensed Operation in the TV Broadcast Bands, SECOND MEMORANDUM OPINION AND ORDER, Adopted: September 23, 2010,

Released: September 23, 2010 (FCC 10- 174), http://www.fcc.gov/Daily_Releases/Daily_Business/2010/db0923/FCC-10-174A1.pdf)

Unlike licensed networks having to build expensive infrastructures to provide services, unlicensed investments are made by users. If the device works, the technology is embraced and competitive market forces drive cost down as evidenced by the huge success of WiFi and bluetooth devices.

Recently the FCC has called for voluntary incentive auctions in which broadcast licensees would receive compensation for relinquishing their spectrum. Reluctantly, the National Association of Broadcasters has asked Congress to undergo a spectrum inventory "to investigate claims of spectrum warehousing. (See NAB Response to Chairman Walden's Call For Spectrum Hearings, (http://www.nab.org/documents/newsroom/pressRelease.asp?id=2475) The real issue is whether specific companies that bought or were given spectrum worth billions have actually deployed it." (See NAB Response to FCC Claim that it has Completed A Spectrum Inventory, http://www.nab.org/documents/newsroo/pressRelease.asp?id=2472)

Furthermore, Verizon's CEO, Ivan Seidenberg, asserts that cable companies have bought spectrum over the last 10 or 15 years that's been lying fallow. They haven't been using it. So here the FCC is out running around looking for new sources of spectrum, and we've got probably 150 megahertz of spectrum sitting out there that people own that aren't being built on (See "A Conversation with Ivan Seidenberg", http://www.cfr.org/technology-and-foreign-policy/conversation-ivan-seidenberg/p21840).

Incidentally, Time Warner's, Cable Chief Operating Officer, Rob Marcus is reported to be squatting on Advanced Wireless Spectrum for which it has no plans to sell, lease, or use according to Communications Daily reporter Josh Wein.

Then there is Dish Network's CEO, Charlie Ergen, in a 2010 earnings call stating his company's plans for its 700MHz holdings - "It is, as it turns out, a pretty good inflation hedge, and they're not making any more of that spectrum. If we're not able to strategically do something with that spectrum, then there's probably other people who are able to do that." Ergen added, "I don't know whether our timing's right or not on 700MHz . At some point, that will be a valuable spectrum to somebody. And if we can figure out a way to use it, that's good. If we can't, then somebody else will own it." (See Dish Network CEO Discusses Q3 2010 Results - Earnings Call Transcript, http://seekingalpha.com/article/235177-dish-network-ceo-discusses-q3-2010-results-earnings-call-transcript?part=qanda)

In spite of these blatant remarks, FCC Chairman Genachowski denies spectrum warehousing and rejects the NAB's request for a comprehensive inventory of present and future spectrum usage by all parties.

Alternatively, Commissioner Susan Ness is on record in March 1997 to CTIA's Wireless stating,"a fee simple approach tolerates spectrum warehousing. Allowing spectrum to be unused, like storing gold in a vault, may be privately profitable. But allowing spectrum to be warehoused will not necessarily maximize its value to the public. Warehousing means that the public is denied new services. Nor will the economy benefit from the jobs that otherwise would be created." (See Remarks of Commissioner Susan Ness before CTIA's Wireless '97 San Franciso, CA, March 3, 1997, "Spectrum Management--Myths and Realities", http://www.fcc.gov/Speeches/Ness/spsn709.html)

As the FCC, National Association of Broadcasters, and CTIA Wireless Association go round and round debating spectrum warehousing, some things are certain, much of the radio spectrum goes unused most of the time and the current property rights model does not work. Customers should no longer be fooled by these organizations that Smartphones and online video consumption are causing spectrum scarcity. Our current spectrum policy facilities spectrum warehousing and spectrum inefficiency all the while exploiting its value. Legislators should take affirmative steps to adopt a modern spectrum policy that efficiently allocates spectrum and fosters optimization by implementing regulations that will:

-Identify and Inventory Spectrum.
-Set aside dedicated bands for unlicensed devices in TV's White Space.
-Prohibit any reallocation of TV spectrum that forecloses any spectrum access to TV White Space devices.
-Mandate cross-network connectivity and mobility.
-Mandate open architecture.
-Prohibit discrimination between source, ownership, destination, and types of content.
-Eliminate non-intrusive underlay restrictions across licensed bands.
-Establish concise and unambiguous definitions on what unjust and unreasonable management of networks means.

In doing so, all segments of society will have access to low cost communication.